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DATE: April 30, 2009

SUBJECT: Documentation of Request for Verbal Authorization for a Ceiling Increase for the Removal Action at the Raritan Bay Slag Site, Old Bridge Township and Sayreville Borough, Middlesex County, New Jersey

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TO: Walter E. Mugdan, Director
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THRU: Joseph Rotola, Chief
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Site ID No.: A205

The purpose of this memo is to document the request for verbal authorization to increase the project ceiling to continue the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) emergency removal action at the Raritan Bay Slag Site. The Comprehensive Environmental Response, Compensation and Liability Information System ID Number for this Site is NJN000206276.

On April 24, 2008, the United States Environmental Protection Agency (EPA), Removal Action Branch received a request from the New Jersey Department of Environmental Protection (NJDEP) to evaluate the Laurence Harbor Seawall for CERCLA removal action consideration. On November 3, 2008, DEP forwarded an amended request to include the northern jetty (hereafter referred to as the western jetty) at the Cheesequake Creek inlet in the overall scope. In March 2009 the Margaret's Creek area was included to the Site. The three areas comprising the site are known as the Raritan Bay Slag (Site).

The Site is located in the Laurence Harbor section of Old Bridge and in Sayreville along the Raritan Bay. The Site includes Margaret's Creek the Old Bridge Waterfront Park and the western jetty at the Cheesequake Creek Inlet (Figure 1). The portion of the Site that is situated in Laurence Harbor includes Margaret's Creek and the Old Bridge Waterfront Park. Margaret's Creek is open space consisting of wetland and upland areas. The upland area is reported to be filled with debris containing slag and battery carcasses. The Old Bridge Waterfront Park is made up of walking paths, a playground area, several public beaches, and three jetties, not including the two jetties at the Cheesequake Creek Inlet. The park waterfront is protected by a seawall, which is partially constructed with pieces of slag. The western jetty at the Cheesequake Creek Inlet, and the adjoining waterfront area west of the jetty, contains slag as well. The slag was placed at the Site approximately 40 years ago. The seawall, jetties, beach area east of the Cheesequake Creek Inlet, and the western jetty at the Cheesequake Creek Inlet are popular fishing areas. The beaches east of the Cheesequake Creek Inlet and west of the seawall appear to be the most popular for swimming.

Elevated levels of lead, antimony, arsenic, and copper were identified by the NJDEP in the soil along the seawall and the Margaret's Creek area. One area of concern identified during the sampling conducted by the NJDEP was at the edge of the beach near the western end of the seawall. Old Bridge Township placed a temporary "snow" fence in this area, posted "Keep-off" signs in the park along the split rail fence that borders the edge of the seawall, and notified the residents of Laurence Harbor. During an environmental assessment of the Margaret's Creek area by NJDEP, slag and battery carcasses were observed at numerous surface locations on the site. During construction activities to replace the sanitary sewer trunk line located in the upland area, many more battery carcasses were encountered. The area of contamination encountered during construction was mitigated under NJDEP oversight.

EPA collected samples at the Old Bridge Waterfront Park and western jetty in September 2008 as part of an Integrated Assessment. The sampling included the collection of soil, sediment, water, biological, and waste samples along the seawall in Laurence Harbor, the western jetty at the Cheesequake Creek Inlet, the beaches situated near these two locations, and the developed portion of the park.

Analytical results generated by both EPA and NJDEP indicate that significantly elevated levels of lead and other heavy metals are present in the soils, sediment, and surface water in and around both the seawall in Laurence Harbor and the western jetty at the Cheesequake Creek Inlet. Analytical results for surface soil samples collected near the seawall were as high as: 142,000 mg/kg for lead, 12,900 mg/kg for antimony, 3,350 mg/kg for arsenic, and 3,590 mg/kg for copper. Four surface soil samples collected on the western jetty at the Cheesequake Creek Inlet ranged in concentration from 54,800 mg/kg to 198,000 mg/kg. The maximum concentrations of antimony, arsenic, and copper detected on the western jetty at the Cheesequake Creek Inlet were 3,120 mg/kg, 2,470 mg/kg, and 4,630 mg/kg, respectively. Nine of 13 soil samples collected in and around the seawall and the western jetty at the Cheesequake Creek Inlet exceeded the Resource Conservation and Recovery Act Toxicity Characteristic Leaching Procedure limit for lead (5 mg/l). The TCLP results for the soil from the western jetty exceeded the limit by a magnitude of approximately 100 to 250 times.

Elevated levels of lead were also identified at several surface water locations on the first beach between the western end of the seawall and the first jetty in Old Bridge Waterfront Park. The average lead concentration of the four highest detections at this location was 1,365 ug/l, with a maximum lead concentration of 1,630 ug/l. Three activity-based water samples collected from the beach area situated between the western end of the seawall and the first jetty had an average total lead concentration of 1,179 ug/l, with a maximum total lead concentration of 1,450 ug/l.

Soil samples collected by NJDEP from upland areas in the Margaret's Creek area identified lead, antimony and arsenic at elevated concentrations.

At the request of EPA, the New Jersey Department of Health and Senior Services, in cooperation with the Agency for Toxic Substances and Disease Registry, evaluated the analytical data generated from the samples collected at the Site. It was concluded that due to the elevated lead

levels a Public Health Hazard exists at the seawall in Laurence Harbor, the beach between the western end of the seawall and the first jetty, and the western jetty at the Cheesquake Creek Inlet (including the waterfront area immediately west of the inlet).

Based on the available data, a CERCLA removal action is warranted at the Site. The following actions need to be taken:

Sayreville Portion:

- : installation of security fence to restrict access to the known areas of contamination;
- : affix warning signs to the fence and adjacent areas; and
- : maintain area as needed to minimize contact with hazardous substances

Old Bridge Portion:

- : installation of warning signs along affected beach areas, sea wall and fishing locations;
- : installation of security fencing along portions of the beachfront if necessary, to restrict access; and
- : maintain area as needed to minimize contact with hazardous substances
- : installation of security fencing and signs on Margaret's Creek to restrict access from the route 35 highway and beach areas.

The total funding initially requested and approved for mitigation contracting at the Site was \$175,000 of which \$150,000 was for ERRS and \$25,000 was for RST. An additional \$200,000 is requested to continue work at the Site. The increase in project ceiling is necessary to pay for the installation of approximately 6,000 linear feet of chain link fence to restrict access to the Site. Of the \$200,000 requested \$175,000 is for ERRS and \$25,000 is for RST. If approved the total Site ceiling will be \$375,000 of which \$325,000 is for ERRS for mitigation contracting and \$50,000 is for RST.

On March 11, 2009 EPA and ATSDR met with elected officials of Old Bridge and Sayreville to present and discuss the sampling results from the draft Removal Site Evaluation (RSE) conducted at the Old Bridge Waterfront Park and the western jetty.

On March 18, 2009 RAB requested and received verbal authorization from the Director of ERRD to perform removal activities at the Old Bridge and Sayreville locations to restrict access, and post signs at the areas identified as a public health hazard.

On April 1, 2009 EPA met with members of the Old Bridge Environmental Commission and approximately 100 residents to discuss the findings of the draft RSE and Health Consultation prepared by the U.S. Department of Health and Human Services. On April 7, 2009 a similar meeting was held for the Sayreville Environmental Commission.

On April 2, 2009 EPA mobilized its ERRS contractor to install temporary snow fence and warning signs along the beach and seawall at Old Bridge Water Front Park. EPA obtained access from the property owners of the western jetty located in Sayreville.

On April 9, 2009 EPA met with elected officials of Old Bridge at their Waterfront Park to discuss fencing options for the beach, seawall and Margaret's Creek. Officials agreed on installation of a vinyl coated 6 feet high chain link fence.

The owners of the western jetty agreed to the installation of chain link fence on their property. Fencing and posting of signs is scheduled for April 27-28.

Installation of fencing at the Old Bridge Waterfront Park and Margaret's Creek is scheduled for the week of April 27th or May 4th.

During the week of April 13, EPA initiated a second sampling event along the Old Bridge Beach at locations east and west of the sea wall to supplement existing laboratory sampling results. Analytical results are expected by June 1, 2009.

On April 24, 2009 EPA will be conducting a geophysical investigation within the grass covered portions of the Old Bridge Water Front Park.

During the week of April 27th EPA/ERT will be conducting an underwater sonar evaluation in and around the Cheesequake Inlet and along the surf at the Old Bridge Waterfront Park to identify potential source areas. Additional investigative activities will include visual underwater inspections by EPA's dive team and collection of select sediment samples.